

REMARKS

Upon entry of the amendment, Claims 1-15 are all the claims pending in the application. Claim 15 is new. Support for new claim 15 can be found in the specification, such as on page 8, lines 3-18.

I. Claim Rejections - 35 U.S.C. § 102

Claims 9 and 11-14 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,022,692 to Janneck ("Janneck '692").

Applicants respectfully traverse.

Claim 9 recites a permeation-side passage material.

Janneck '692 fails to describe or suggest the permeation-side passage material. Figure 1 of Janneck '692 discloses a support screen thereof wound in a spiral, with a sandwiched tubular membrane. *See*, col. 2, lines 34-37. Figure 3 of Janneck '692 shows the longitudinal section view of the support screen thereof having a semipermeable tubular membrane arranged therebetween. *See*, col. 2, lines 38-41.

Applicants respectfully submit that Figures 1 and 3 do not provide for a permeation-side passage material. Figures 1 and 3 fail to show a passage material on the side of permeation.

Claims 1, 2 and 4-14 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,902,417 to Lien ("Lien '417").

Applicants respectfully traverse.

Claim 1 recites that the ratio of a pitch of the warps to a pitch of the wefts is 1/1.5 to 1/6.

Figure 6 of Lien '417 shows a feed-carrier layer 16 thereof including ribs 50 and cross-filaments 52. *See*, Figure 6. Lien '417 discloses that spacing between adjacent cross-filaments 52 is preferably between about 0.5 and about 1.5 times the spacing between the ribs 50.

Lien '417 fails to describe or suggest the claimed ratio of the warp pitch to the weft pitch. The spacing range of about 0.5 to 1.5 times the spacing between ribs, as disclosed in Lien '417, converts to a warp pitch to weft pitch ratio of 1/0.5 to 1/1.5. In this regard, the spacing range disclosed in Lien '417 is different from the claims ratio of pitch of the warps to the pitch of the wefts.

Further, Claim 9 recites that a ratio of the warp diameter to the weft diameter is 2.5/1 or smaller.

In contrast, Lien '417 discloses that the cross filaments 52 are of a height less than half of the height of the ribs, and preferably less than about 25 % of the height of the ribs. *See*, col. 6, lines 9-13.

Lien '417 fails to describe or suggest the claimed ratio of the warp diameter to the weft diameter. The heights of the cross filaments 52 and ribs thereof provide for a ratio different from the claimed ratio of 2.5/1 or smaller.

Further, Lien '417 provides no motivation to modify or select heights of the cross filaments 52 and ribs thereof so that the ratio of the warp diameter to the weft diameter is 2.5/1 or smaller. For example, Lien '417 fails to disclose a working example in which the heights of the cross filaments 52 and the ribs provide for a ratio within the claimed ratio of 2.5/1 or smaller.

Lien '417 also teaches away from modifying the claimed ratio, as Lien '417 discloses that the height of the cross filaments 52 are preferably less than 25 % of the height of the ribs.

Further, Example 3 and Comparative Example 4 of the specification establish that the claimed ratio of the warp diameter to the weft diameter provides for unexpected superior effects. Example 3 provides that the ratio of the warp diameter to the weft diameter is 2/1. Comparative Example 4 provides that the ratio of the warp diameter to the weft diameter is 3/1.

Claims 1, 3, 5-7, 9 and 11-13 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by EP 0 053 392 ("EP '392").

Applicants respectfully traverse.

Applicants provide herewith an English translation of EP '392 for the record.

Claims 1 and 9 recite that the spiral separation membrane element comprises a feed-side passage material and a permeation-side passage material.

EP '392 discloses a housing and, disposed thereon, supply lines and discharge lines, where stacked semipermeable tubing sections are disposed in the housing and each have in their interior a membrane holder composed of unwoven synthetic material of intersecting threads. *See*, Abstract and page 2, lines 2-8.

Applicants respectfully submit that EP '392 fails to disclose that its housing has disposed therein a feed-side passage material and a permeation-side passage material. EP '392 discloses that the housing thereof includes a single membrane holder. In this regard, EP '392 does not describe or suggest that the device thereof has both a feed-side passage material and a permeation-side passage material. Further, EP '392 discloses certain uses of its housing, but

these disclosures fail to describe or suggest having both a feed-side passage material and a permeation-side passage material. *See*, page 3, lines 22-23 and page 4, lines 4-23.

II. Claim Rejections - 35 U.S.C. § 103

Claim 3 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lien '417.

A comparison of the passage materials produced in Examples 1 and 2 of the specification with the passage materials produced in Comparative Examples 1 and 2 of the specification demonstrate that the element recited in Claim 1 provides for unexpected superior results. Comparative Example 1 describes that the warp pitch/weft pitch ratio thereof was 1:1. Comparative Example 2 describes that the warp pitch/weft pitch ration thereof was 1:8. The passage materials of Examples 1 and 2 could attain a pressure loss reduced to about a half of that for the conventional passage material of Comparative Example 1. A stable measurement of pressure loss in Comparative Example 2 could not be taken. In this regard, the element recited in Claim 1 is unexpectedly superior.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
Appln. No.: 10/802,884

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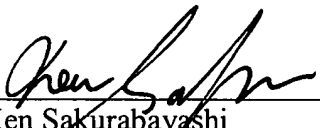
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER


Ken Sakurabayashi
Registration No. 58, 490

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